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# New Patent Claims

1. A head up display with a device for producing a  
focused light flux, having a light source consisting of  
5 a light emitting diode matrix (1, 2, 3), having an  
optical device for focusing and scattering the light  
produced by the light emitting diodes and which is  
arranged between the light source and a light exit  
opening (9, 18), in which the device for focusing and  
10 scattering comprises a grid reflector (5) that  
respectively forms a light channel for a matrix point  
whose walls (6) are reflecting, and whose end of in  
each case one light channel that faces the light source  
(1, 2, 3) includes a positive lens (4), and having an  
15 image reproduction apparatus (9) that includes light  
valves and is arranged at the light exit opening (9,  
18) of the device for focusing and scattering, a  
diffusing screen (10) being arranged between the image  
reproduction apparatus (9) and the light exit opening  
20 (9, 18).

2. The head up display as claimed in claim 1, characterized  
in that the positive lenses (4) of all the light channels are  
integrally connected to a plate arranged between the light  
25 source (1, 2, 3) and the grid reflector (5).

3. The head up display as claimed in claim 1, characterized  
in that the positive lenses (4) are integrally connected in  
groups to webs arranged between the light source (1, 2, 3) and  
30 the grid reflector (5).

4. The head up display as claimed in one of the preceding  
claims, characterized in that the radii of curvature of the  
lens differ in different directions (astigmatic lenses).

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5. The head up display as claimed in one of the preceding claims, characterized in that the image reproduction apparatus (9) has an oblique position such that the incident light is not reflected in the same direction in which the light also leaves the image reproduction apparatus (9) in order to reach the viewer.